

COUNTY BOROUGH OF SOUTH SHIELDS.



REPORT ON THE
HEALTH OF THE BOROUGH
DURING 1904,

BY

SYDNEY G. MOSTYN, M.A., M.B., D.P.H.,

MEDICAL OFFICER OF HEALTH,
MEDICAL SUPERINTENDENT OF DENES FEVER HOSPITAL AND
WHITELEAS SMALLPOX HOSPITAL.



SOUTH SHIELDS :

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1905.

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INTRODUCTORY.

To the Chairman and Members of the Health Committee.

MR. CHAIRMAN AND GENTLEMEN,

I have the honour of submitting to you my first annual report, the thirtieth report presented to you by successive Medical Officers. As I entered on my duties late in October, following on Dr. Boyd's resignation in July, in consequence of his appointment as Medical Officer of Health for Pretoria, I am unable to treat at length the sanitary history of the Borough during the year. The death-rate, 18.2 per 1,000 of the population, exceeds that of last year (17.1), the lowest death-rate recorded in South Shields; but only for four years since 1871, when our records commence, has the death-rate been lower than 18. The death-rate for the first ten months of the year was 16.9, but during November and December the increased prevalence of chest diseases and diseases of children raised the rate for the year.

The year has been a healthy one on the whole. Although smallpox has been present almost the whole twelve months, the amount of the disease has been serious only at two periods, the first in April and May, and the second at the end of the year. Scarlet fever has declined, the number of cases notified being smaller than in any year since the adoption of the Notification Act in 1891. In November and December measles and whooping cough were common among children, and caused 51 deaths out of the total of 92 for the year. In consequence of this outbreak most of the Infants' Schools were closed for a time. This closing was followed by a marked decrease in these diseases.

I have to record the death of Inspector Lewthwaite, which occurred in December. He was appointed in December, 1901. Mr. Lewthwaite was well known in the Borough, and his popularity and tact were of great help in carrying out his duties.

I am, Gentlemen,

Yours obediently,

Health Office,
South Shields,

S. G. MOSTYN.

January 31st, 1905.

REPORT, 1904.

VITAL STATISTICS.

AREA OF BOROUGH.—2,399 acres, including inland water (55 acres), but excluding foreshore and tidal water.

POPULATION.—The Registrar-General estimated the population of the Borough to be at June 30th, 1904, 107,334. The density of population per acre is 44.7.

BIRTHS.—The number registered during the year was 3,705, being 70 more than during 1903. This gives a BIRTH-RATE of 34.5 PER 1,000 of the population, identically the same as for 1903. The births were made up as follows :—

	Males.	Females	Totals.
Legitimate	1,812	1,774	3,586
Illegitimate	69	50	119
Totals	1,881	1,824	3,705

The percentage of illegitimate births was 3.2, whilst for 1903 it was 2.9.

DEATHS.—1,948 deaths were recorded as occurring in the Borough during 1904, 1,029 being males, and 919 females. The proportion of male to female deaths is thus 1,119 to 1,000.

This number, 1,948, *includes* the deaths of 147 persons in Harton Workhouse, 19 in Sedgefield Asylum, 7 in Whiteleas Hospital, and 1 each in H.M. Prison, Durham ; Memorial Hospital, Jarrow ; and Greatham Private Hospital, who all belonged to the Borough, but at their decease were in these institutions on account of sickness or infirmity. The death of one person who died in the town, but did not belong thereto is *excluded* (" residents " and " non-residents," see Table IV.)

On this figure, 1,948, the DEATH-RATE is equal to 18.2 PER 1,000 of the population.

The death-rate quarter by quarter was as follows :—

1st Quarter.....	17.8
2nd ,, 	16.6
3rd ,, 	15.4
4th ,, 	22.6

In order to arrive at a fair comparison with other towns in respect of death-rate, allowance has to be made for the different proportions of males and females, and of young and old persons living in the towns compared. In the case of this Borough the above death-rate must be multiplied by 1.0593 if it is desired to obtain a death-rate which can be compared with that of England and Wales. This gives a " corrected " death-rate of 19.2.

The following is from a table compiled by the Editor of "Public Health,"
the Towns arranged according to "corrected" Death Rate.

TOWNS.	Populations, 1904.	Recorded Death Rate.	Corrected Death Rate.	Birth Rate.	Deaths under 1 year per 1,000 Births.	Death Rates per 1,000 of the Population from						
						Small- pox.	Measles	Scarlet Fever.	Diph- theria.	Whoop- ing Cough.	Enteric Fever.	Phthisis
Walthamstow	111,282	11.95	12.78	32.79	136	.008	.48	.12	.24	.28	.08	.85
Willesden	132,566	12.22	13.10	32.86	115	..	.33	.01	.14	.07	.05	1.04
Southampton	112,500	13.83	13.76	26.78	114	..	.00	.01	.11	.14	.01	1.22
Croydon	144,419	13.80	14.20	26.10	129	..	.43	.06	.17	.10	.03	.98
West Hartlepool	69,251	16.30	14.20	33.03	134	..	.19	.03	.47	.67	.03	.85
East Ham	116,902	13.50	14.40	31.70	140	..	.46	.08	.38	.19	.12	1.18
Wolverhampton	98,194	14.61	15.29	29.80	152	..	.00	.14	.18	.61	.12	.90
Leicester	224,186	14.56	15.55	26.67	163	.020	.14	.02	.03	.40	.06	1.57
Great Yarmouth	52,099	17.02	15.62	27.90	165	..	.23	.06	.46	.63	.06	.90
Edinburgh	331,977	15.04	15.66	23.42	125	.040	.19	.09	.18	.55	.06	1.22
Bristol	343,204	15.44	15.86	26.05	134	.002	.26	.10	.30	.30	.04	1.19
Derby	120,449	15.15	16.33	27.25	143	.030	.13	.04	.25	.24	.05	1.01
Cardiff	176,313	15.20	16.50	29.50	144	.005	.36	.14	.17	.34	.05	1.36
Halifax	107,580	15.50	16.60	20.10	130	.080	.41	.21	.15	.17	.09	1.20
York	81,268	16.18	16.66	28.15	170	.010	.17	.38	.17	.28	.17	1.34
London	4,648,950	16.10	17.00	28.00	144	.010	.43	.08	.16	.32	.06	1.63
West Ham	288,424	16.76	17.91	32.16	165	..	.58	.13	.14	.35	.11	1.40
Hull	253,865	18.00	18.20	30.80	181	..	.70	..	.20	.20	.10	1.20

Plymouth	114,003	18.74	18.21	25.33	173	..	.70	.31	.11	.24	*.15	?
Nottingham	248,811	17.50	18.40	27.80	175	.050	.18	.11	.28	.35	.23	1.31
Huddersfield	94,925	17.51	18.81	23.71	136	.010	.79	.11	.15	.26	.07	1.33
Swansea	95,931	17.70	18.90	30.50	172	..	..	.14	.24	.99	*.05	1.46
Bolton	175,744	16.90	19.12	26.90	167	.005	.09	.12	.16	.76	.21	1.25
SOUTH SHIELDS..	107,334	18.10	19.20	34.50	144	.065	.26	.07	.11	.59	.07	1.52
Brackford	285,089	17.54	19.39	22.02	167	.010	.53	.12	.53	.19	.14	1.38
Blackburn	132,134	17.20	19.40	23.50	192	..	.45	.09	.08	.72	.15	.94
Preston	115,055	17.83	19.52	28.26	183	.050	.74	.06	.18	.25	.25	1.06
Leeds.....	450,142	17.92	19.56	28.00	176	..	.77	.13	.11	.46	.10	1.40
Middlesbrough	96,684	19.94	20.00	37.12	170	..	.40	.10	.11	.25	.18	1.28
Sunderland	151,157	19.40	20.00	34.40	165	.010	.38	.02	.17	.42	.22	1.37
Tynemouth	53,060	19.44	20.06	34.91	152	.150	.54	.03	.07	.13	.07	1.28
Glasgow	798,357	18.16	20.11	30.99	145	.080	.43	.08	.11	.73	.10	1.84
Oldham	139,497	18.30	20.60	24.90	155	.100	.50	.16	.24	.26	.16	1.38
Birmingham	537,965	19.30	20.80	31.50	195	..	.39	.12	.21	.87	.07	1.50
Rhondra.....	122,310	19.10	21.00	39.70	190	..	.83	.16	.26	.43	.34	.94
Birkenhead.....	114,814	19.87	21.20	33.14	?	.008	.85	.17	.17	.72	.11	1.51
Wigan	62,800	19.46	21.49	34.59	188	.015	.35	.17	.04	.52	.24	1.08
Stockport	97,008	19.98	21.56	26.63	201	.150	.68	.23	.16	.06	.12	1.15
St. Helen's	88,545	20.39	22.10	37.33	174	.030	1.47	.17	.24	.55	.12	1.58
Salford	228,983	21.00	23.22	31.70	193	.010	1.10	.24	.50	.60	.20	1.97
Liverpool	723,430	21.90	23.40	33.50	196	.003	.96	.20	.27	.58	.11	1.70
Administrative County of Durham.....	801,100	..	18.30	35.60	162	.030	.55	.16	.29	.43	*.15	1.07

* "Fever."

Death-rates and Birth-rates—per 1,000—throughout England and Wales for 1904 :—

	Birth-rate.	Death-rate.	Zymotic rate.	Infantile Mortality rate.
England and Wales	27.9	16.2	1.94	146
Rural England and Wales	26.8	15.3	1.28	125
76 Great Towns	29.1	17.2	2.49	160
142 Smaller Towns	27.5	15.6	2.02	154
Durham : Administrative County	35.6	18.3	2.59	162
South Shields	34.5	18.1	1.77	144

UNCERTIFIED DEATHS.—During 1904 there were 155 deaths, the causes of which were not certified by a medical man. Inquests were held regarding 62; in the remaining 93 the Coroner decided that no inquest was necessary. 42 of these 93 were deaths of infants under 1 year old.

INFANTILE MORTALITY.—The deaths of 532 children under 1 year of age were recorded, yielding an INFANTILE MORTALITY RATE of 144 PER 1,000 births registered. This is very satisfactory.

INFECTIOUS DISEASE (NOTIFICATION) ACT, 1889.

TABLE showing the number of **notifications** of the Notifiable Diseases, and the **deaths** therefrom during 1904 :—

Diseases.	Cases Notified.	Deaths Registered.
Smallpox	101	7
Scarlet Fever	278	8
Diphtheria	69	11
Membranous Croup	4	1
Typhus Fever .....	..	..
Enteric (or Typhoid) Fever ..	59	8
Continued Fever	1	1
Relapsing Fever .....	..	..
Puerperal Fever	3	3
Cholera .....	..	..
Erysipelas	99	4
Chickenpox	411	..
Totals for 1904	1,025	43
Totals for 1903	1,289	44

The following Table shows the number of **cases** of Infectious Disease notified, and the **months** in which they occurred :—

1904.	Smallpox.	Scarlet Fever.	Diphtheria.	Membranous Croup.	Typhus Fever.	Enteric Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Chickenpox.	Totals.
January..	3	22	6	..	..	6	..	..	..	..	5	68	110
February	3	35	10	1	..	4	..	..	..	..	15	43	111
March ...	6	36	5	..	..	3	1	..	..	..	7	43	101
April	21	17	6	..	..	5	..	..	..	..	6	23	78
May	37	22	12	..	..	8	..	..	1	..	8	16	104
June.....	1	13	4	..	..	3	..	..	..	..	7	20	48
July	1	13	3	..	..	4	..	..	..	..	5	9	35
August...	1	22	2	..	..	1	..	..	..	..	6	9	41
September	1	19	5	..	..	6	..	..	..	..	7	22	60
October ..	..	29	8	1	..	8	..	..	..	..	10	68	125
November	7	40	2	1	..	1	..	..	1	..	9	62	123
December	20	10	6	1	..	10	..	..	1	..	14	27	89
Totals ...	101	278	69	4	..	59	1	..	3	..	99	411	1025
Totals 1903	35	378	78	5	..	58	..	..	6	..	110	619	1289

The Notification Act, 1889, was brought into force within the Borough on May 1st, 1891. During the past eleven years the **notifications** have been as follows :—

Disease.	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904
Smallpox	14	22	12	3	6	2	2	..	71	35	101
Plague .....	..	..	..	..	..	..	..	..	..	..	..
Cholera .....	..	..	..	..	..	..	..	..	..	..	..
Diphtheria	41	27	31	35	16	28	23	30	23	78	69
Membranous Croup	5	8	8	3	1	5	6	5	4	5	4
Erysipelas	120	78	111	105	133	86	80	79	98	110	99
Scarlet Fever	713	386	482	638	633	669	511	1263	834	378	278
Typhus Fever .....	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever.....	76	153	127	78	165	175	71	115	66	58	59
Puerperal Fever...	7	4	4	9	8	4	4	5	7	6	3
Continued and Relapsing Fever ..	7	25	21	14	8	2	6	2	..	..	1
Chickenpox .....	..	..	..	..	..	..	..	..	421	619	411
Totals	983	703	796	885	970	971	703	1499	1524	1289	1025

Chickenpox is only temporarily notifiable.

ZYMOTIC DISEASES.—The seven principal Zymotic Diseases accounted for 190 of the deaths, as follows :—

Smallpox.	Scarlet Fever.	Diphtheria and Mem- branous Croup.	"Fever."	Measles	Whooping Cough.	Diarrhœa.
7	8	12	9	28	64	62

The death-rate for the seven principal Zymotic Diseases was 1.77, as compared with 1.01 for the previous year.

ZYMOTIC RATES—PER 1,000 OF THE POPULATION.

YEAR.	Smallpox.	Scarlet Fever.	"Fever."	Diphtheria and Membranous Croup.	Measles.	Whooping Cough.	Diarrhœa.	Total Zymotic Rate.
Mean 1871-80 ..	.85	1.44	.79	.12	.42	.78	1.59	6.02
Mean 1881-90 ..	.01	.45	.19	.10	.34	.44	.78	2.34
1891 .....	.00	.11	.20	.29	.90	.60	.73	2.85
1892 .....	.00	.12	.21	.09	.29	.33	.55	1.66
1893 .....	.036	.38	.37	.02	.38	.36	1.56	3.18
1894 .....	.00	.39	.20	.04	.19	.17	.42	1.36
1895 .....	.00	.18	.34	.08	.29	.90	1.42	3.36
1896 .....	.00	.18	.28	.04	.92	.42	.58	2.49
1897 .....	.00	.15	.16	.06	.28	.23	.88	1.83
1898 .....	.00	.25	.39	.00	.56	.77	1.11	3.09
1899 .....	.00	.21	.47	.02	.04	.12	1.41	2.33
1900 .....	.00	.21	.19	.09	.55	.67	.55	2.33
Mean 1891-1900	.003	.21	.28	.07	.44	.45	.92	2.44
Mean 1871-1900	.291	.70	.42	.10	.40	.56	1.10	3.60
1901 .....	.00	.60	.22	.14	.68	.10	1.60	3.36
1902 .....	.039	.38	.06	.06	.92	1.01	.16	2.62
1903 .....	.009	.11	.09	.15	.14	.03	.47	1.01
1904 .....	.065	.07	.08	.11	.26	.59	.57	1.77

Smallpox.—101 cases were notified, and 7 deaths were registered. (One case notified in 1904 died in 1905). The following shows the months in which the cases and deaths occurred :—

1904.	Cases.	Deaths.
January	3	..
February	3	1
March	6	1
April	21	1
May	37	1
June	1	..
July	1	..
August	1	..
September	1	..
October .....	..	..
November	7	1
December	20	2
Totals	101	7

(Also 1 death in January, 1905.)

ORIGIN OF CASES.—Dr. Boyd made several reports, as dated below, during the first half of the year, and from these I give the following extracts :—

January 19th.—Commenting on the first case notified, he says, “The case occurred in a man residing in Eglesfield Road. The infection appeared to date from the Christmas Holidays, and to have been received in the Borough from some casual visitor who could not be traced.”

February 16th.—5 cases.—“Two were relatives of the above, who had refused re-vaccination ; one was a contact with a case in North Shields, who also refused vaccination ; of the other two, one was a young school girl who had never been vaccinated, and who was probably infected from the previous cases ; whilst the fifth, a man, was probably infected some place up the river.”

March 22nd.—5 cases.—“In one case the infection was traced to Hebburn, where the man had been staying in a house from which previous cases of smallpox had been removed ; in a second a girl had come from North Shields when the disease was already on her, the rash appearing 3 days after her arrival here. In the other three cases the source of infection could not be traced so definitely, but the evidence pointed to the fact that the infection had been received outside the Borough.” Dr. Boyd then goes on to say “Though the disease has obtained no foothold in South Shields, such frequent invasions are alarming. In certain neighbouring towns the disease is epidemic, and cases are cropping up in all parts of Tyneside.”

April 19th.—7 cases.—“Of these seven cases, two were definitely traced to an infecting source in North Shields. Of the other five no definite source can be affirmed, but they appear to have been infected about the Easter holidays.”

May 3rd.—21 cases.—“3 were under observation as contacts ; one other was traced to North Shields. Of the other 17 cases, 4 were probably infected during Easter holidays. Of these 4, 2 were notified on April 20th.

The other two were not recognised, no doctor being called in, and were only discovered later on the occurrence of cases infected from them. To one of these two, an epileptic living in _____ Street, 5 certainly, and other 3 probably, were due. The facts in connection with this case are as follows : On April 26th I was notified of a case in _____ Street. On enquiry I found that the patient, a woman, had been ill for 5 days, but did not call in a doctor until the day of notification. She had evidently had suspicions of her complaint, as she had kept the children off school for a day. She denied any knowledge whatever of the source of her illness, or of the presence of any similar sickness in the neighbourhood. After her removal to hospital, she informed one of the patients that she had been nursing a man, who had the same illness as herself. This information was promptly transmitted to me, and its truth was soon verified by the discovery of the epileptic above-mentioned in the adjoining house in an advanced stage of the disease. The person in charge of this house made every effort to prevent the existence of this man's presence being made known, absolutely denying that there was any such person, even after she was aware of the removal of her neighbour with smallpox. On the day of the removal of the epileptic, another woman residing in the same house was also discovered by the Sanitary Inspector. She also made great efforts to conceal her illness, rushing past the Inspector with her face covered up, into the public street. Two other members of this establishment who had been removed to hospital for observation, there developed the disease. Two days later a case was notified a few doors off, and on April 30th a pawnbroker, who had been receiving goods from infected households in _____ Street, was found to be suffering from the disease. Two further cases in the immediate neighbourhood of _____ Street were notified on May 2nd.” (Owing to the death of the epileptic, subsequent to discharge from hospital, and one of the women patients in hospital, no legal proceedings were taken against these people.)

“As regards one of the other concealed cases, the circumstances are as follows :—On April 29th, Mr. Weir, Sanitary Inspector observed a man standing on the pavement opposite Trinity Church,

whose face was covered with a rash, which the Inspector suspected to be smallpox. Having taken the man's name and address and ordered him to proceed to his home, he at once telephoned to me ; and on visiting the case I found the man to be suffering from smallpox. He professed absolute ignorance of the nature of his complaint having, he stated, considered it to be due to cold. His wife and children were removed to hospital along with him for observation and it was there discovered that the wife also had suffered from smallpox a fortnight previous to her husband's attack. So far no other cases have been definitely traced to this couple." (Subsequently three direct contacts developed smallpox.)

" Contemporaneous with the third batch are two cases belonging to the north end of the town. There are still two cases of the 21 with which I have not dealt. The facts regarding these are as follows :—On Sunday May 1st, I received a telephone message from Sunderland to the effect that a case of Smallpox there had asserted that in the house in South Shields where she had previously been staying, the landlady's daughter was suffering from what was said to be chickenpox. On visiting the house I found that the child was suffering from an attack of smallpox. The mother informed me that she considered the disease to be acne, and had no idea that it was infectious. A full list of the inmates of the house was supplied by the mistress of the establishment. Arrangements were made for thorough disinfection of the premises and removal of the inmates, including the infected child, for the next morning. Just as the ambulance was leaving the house and the Inspector was about to lock it up, he was astonished to find a man concealed in the coal cellar suffering from a well-marked attack of smallpox. This man, who proved to be a brother of the mistress of the house, was at once removed to hospital. Both he and his sister admitted that they had intended if possible, to conceal the case and isolate him at home." (This woman was subsequently fined £2 and costs for failing to notify the case.)

" The facts mentioned above will show that the present position is extremely critical. The culpable, and what one might call criminal, carelessness of certain people in the town is making the chance of an epidemic on a large scale, a very considerable one. Children have been attending public school for several weeks from a two-roomed house, where a case of smallpox was lying; goods have been handed in at pawnbrokers' establishments from infected houses ; lodgers have been taken into boarding establishments where smallpox cases existed, and allowed to go away without any warning—all these might easily be avoided if the members of the public would take the trouble to use a little common-sense and carefulness. All

these cases would have been recognised as suspicious by anyone who had read the notices which have been widely circulated through the town. Every effort has been made on the part of the Health Department to minimise and limit the evil results which are likely to arise from the circumstances narrated." Dr. Boyd then details his action to prevent the spread, by house-to-house visitation of the infected area, (Back Cambridge Street, George Street, Edward Street, &c.), disinfection, &c.

May 17th.—18 cases.—“To the above-mentioned concealed and unreported cases nearly all of these 18 can be definitely traced. With 5 exceptions all cases notified since May 2nd, were under our observation as contacts when they developed the symptoms of the disease and 18 of the 39 cases were notified by myself. Every effort has been made to trace possible contacts and to keep them under daily observation.”

June 21st.—14 cases.—“I am happy to be able to report that the outbreak is at an end. Of the 14 cases notified during the past five weeks, 9 were contacts under observation and who had refused vaccination and in the remaining 5 the connection with previous cases was clearly traceable. There has only been one case since May 28th, in the person of a known contact, this occurring on June 12th.”

After this, one case occurred in each of the months July, August, and September. In the first case the patient was a tramping labourer who undoubtedly brought the disease with him, developing about a week after arrival here. In the other two cases the source of infection was unknown. Then for over six weeks no cases were notified, though the disease was prevalent in neighbouring Tyneside towns. The first cases of the second outbreak were notified on November 8th. A man residing in Hyde Street was the first case notified. A plasterer to trade, and working out of town, he got about the district a good deal, and though I was unable to trace the source of his infection it was most probably received outside of the Borough. On the same day other cases were removed from a house in George Street, close to where the batch of concealed cases occurred in the spring. From this house, consisting of six tenements with a common yard, 31 people were removed to hospital, of whom 5 were suffering from smallpox and a sixth developed it later. No further cases were traced to these. The source of infection was the husband of one of the patients who had recovered from an undetected attack of smallpox. His work as a boatman brought him into contact with many vessels entering the Tyne, and also with large numbers of people at the Tyne Dock Boat Landing.

The next cases were notified on December 2nd, 3 occurring on this date—one in Empress Street, another in Harton Green Lane, and the other in Marshall Wallis Road, being the extremes and the centre of the town. A sister of the first case had suffered from an attack treated as chickenpox, whilst the father of the third had an unrecognised attack, perhaps received at the same time and place as the boatman mentioned above. The source of infection in the second was possibly the Fair in the Market Place. No secondary cases were traced to these. Cases then occurred almost every other day for the rest of December. One, a woman, undoubtedly got her infection at Newcastle, two at the Pier Works, Tynemouth, and another from his father who had an unrecognised attack. In 5 others the source of infection was unknown. From these 9 cases arose 8 others, who at the time they developed the disease were under our observation as contacts.

Latterly, the disease was confined to no special districts of the town, the cases occurring on the extreme edges of the Borough as well as in the centre, and at the end of 1904 the outbreak showed signs of increasing.

During the year 228 contacts passed through the disinfecting process at Whiteleas Hospital, and 73 at the Denes Hospital, the empty typhoid pavilion being used for that purpose during May, when Whiteleas was rather crowded with cases.

The number of visits made by the Inspectors to the houses of these people, so as to aid the early detection of secondary cases was 3,482, each house being called upon daily for a fortnight, and then every other day for a week. A proof of the value of this system of contact-watching is to be found in the large proportion of cases thus found, viz., nearly one half. Vaccination or re-vaccination was urged upon all contacts, and as far as I can gather, from the public vaccinators, a large proportion submitted to the operation. The number of primary vaccinations performed during 1904 was 3,309.

In March Dr. Boyd drew up and had posted throughout the town a large and striking poster pointing out the value of vaccination and re-vaccination, giving the symptoms of smallpox, and urging the necessity of medical advice in suspicious cases, and also warning the public of the penalty entailed by failure to notify cases.

Chickenpox was kept on the list of notifiable diseases, 411 cases being notified.

SMALLPOX, 1904.

Notified.	Source of Infection.	Primary Cases.	Secondary Cases.
Jan. 8	? Casual Visitor.....	1	2
„ 18	North Shields	1	..
Feb. 1	Unknown	1	..
„ 8	Up-River	1	..
March 1	Outside Borough	1	..
„ 2	Imported from abroad, Patient a Sailor .	1	..
„ 9	Hebburn	1	..
„ 12	? Hebburn, where mother had unrecognised attack	1	6
„ 18	North Shields	1	..
„ 28	„	2	..
April 11 & 20	Sunday School Demonstration in Market Place	6	..
„ 11	North Shields	1	3
„ 27	Concealed Case, infection unknown ...	1	19
„ 29	Unknown, nearly better when discovered	1	4
„ 30	? Market Place	1	7
„ 30	? „	1	1
May 2	North Shields	1	..
„ 6	? Public Exhibition	1	..
„ 9	? North Shields.....	1	..
„ 12	Unknown	1	..
„ 17	„	1	..
„ 20	„ (this was a doubtful case of Smallpox)	1	..
„ 23	Husband had unrecognised attack	1	..
July 2	Imported, Patient a Tramping Labourer	1	..
Aug. 8	Unknown	1	..
Sept. 24	„	1	..
Nov. 8	„	1	..
„ 8	Husband of one had unrecognised attack	5	1
Dec. 2	Father had unrecognised attack	1	..
„ 2	Unknown, ? Fair in Market Place	1	..
„ 2	Sister had attack treated as Chickenpox .	1	..
„ 3	Unknown	1	3
„ 3	Newcastle	1	..
„ 9	Father had unrecognised attack	1	1
„ 10	Unknown	1	..
„ 13	? Pier Works, Tynemouth	1	2
„ 19	Unknown	1	2
„ 24	? Pier Works, Tynemouth	1	..
„ 24	? Savings' Bank	1	..
„ 26	Unknown	1	..
		50	51

The following Table shows the ages and condition as regards *Vaccination* of 102 cases of Smallpox (excluding the 1 doubtful case) treated in Whiteleas Smallpox Hospital during 1904, the deaths being shown in brackets :—

Condition as to Vaccination.	Years of Age.					Totals.
	0-5	5-10	10-20	20-40	40+	
Not Vaccinated	3 (1)	5 (1)	11 (2)	2	..	21 (4)
Not Vaccinated until after exposure to Smallpox ...	1	1	2	1	..	5
Marks : 0.....	1	1	1 (1)	2 (1)	..	5 (2)
1.....	..	1	..	3	1	5
2.....	..	..	..	17	5	22
3.....	..	..	..	6 (1)	2	8 (1)
4.....	..	..	11	19 (1)	4	34 (1)
5.....	..	..	..	1	1	2
Totals	5 (1)	8 (1)	25 (3)	51 (3)	13	102 (8)

Table showing *Type* of Disease, *Severity* of Attack, and Condition as to *Vaccination* of the above cases ; deaths being shown in brackets :—

Type.	Severity of Attack.	Condition as to Vaccination.								Totals.	
		Not Vaccinated.	Vaccinated only after Exposure.	Number of Marks.							
				0	1	2	3	4	5		
Discrete	{ Mild	3	4	3 ^a	4	15	4	27 ^b	1	61	} 82 (2)
	{ Moderate	5	..	..	1	5	1	2	1	15
	{ Severe ..	6 (1)	1	1(1)	..	1	..	2	..	11 (2)	
Semi-confluent	{ Mild	} 3 (1)
	{ Moderate	..	..	..	..	..	..	..	..	..
	{ Severe ..	3 (1)	..	..	..	..	..	..	..	3 (1)
Confluent....	{ Mild	1	1	} 9 (2)
	{ Moderate	..	..	..	..	..	..	..	..	..
	{ Severe ..	4 (2)	..	..	..	..	2	2	..	8 (2)
Haemorrhagic	{ Mild	} 3 (3)
	{ Moderate	..	..	..	..	..	..	..	..	..
	{ Severe ..	..	..	1(1)	..	..	1(1)	1 (1)	..	3 (3)
Totals.....	{ Mild	3	4	3	4	16	4	27	1	62	} 102 (8)
	{ Moderate	5	..	..	1	5	1	2	1	15
	{ Severe ..	13 (4)	1	2(2)	..	1	3(1)	5 (1)	..	25(8)	
Totals	21 (4)	5 ^c	5(2)	5	22	8(1)	34 (1)	2	102 (8)	

Notes :—^a One of these, aged 33, had Smallpox 26 years previously.

^b One of these, aged 59, was vaccinated in infancy, again when 10, and again when 17 years old.

^c These five were successfully vaccinated from 1 to 11 days before the rash.

Scarlet Fever.—278 cases of this disease were notified during the year, and 8 deaths occurred.

Four cases were doubtful scarlet fever ; of the remaining 274, 55 were “ secondary ” cases, 14 “ return ” cases and 2 were secondary to return cases.

“ Secondary ” cases are cases in the same house as a previous one and infected from it. “ Return ” cases are those which occur in a house to which a patient has been discharged from hospital.

The distribution of the disease in the several Wards, and during the different quarters of the year, is shown in the following table :—

WARDS.	Shields.	St. Hilda.	Holborn.	Beacon.	Bents.	Westoe.	Laygate.	Rekendyke.	Deans.	Tyne Dock.	Totals.
1st Quarter	8	2	3	7	12	24	8	8	12	9	93
2nd „	4	1	..	1	11	18	..	7	4	6	52
3rd „	2	1	2	2	11	16	4	5	10	1	54
4th „	3	1	..	..	5	16	4	10	24	16	79
Whole Year	17	5	5	10	39	74	16	30	50	32	278
% of Cases removed to Hospital	72	80	80	80	74	62	88	83	64	84	73
Mortality % of Cases	..	..	40	..	2.6	1.3	1.2	3.3	..	3.1	2.9

Attack-, Death-, and Mortality-rates from Scarlet Fever since 1892, with average at foot for comparison :—

Year.	Population.	Attack-rate per 1,000 Population.	Death-rate per 1,000 Population.	Mortality Rate % of Cases.
1892	80,530	4.8	.12	2.5
1893	82,284	7.4	.38	5.2
1894	84,077	8.4	.39	4.6
1895	85,910	4.4	.18	4.1
1896	87,785	5.4	.18	3.3
1897	89,699	7.1	.15	2.2
1898	91,656	6.9	.25	3.6
1899	93,657	7.1	.21	3.0
1900	95,703	5.3	.21	4.1
1901	97,800	12.5	.60	4.7
1902	103,330	8.0	.38	4.7
1903	105,325	3.6	.11	3.2
Av. 1892-03	..	6.7	.26	3.7
1904	107,334	2.9	.07	2.9

Last year Dr. Boyd in his annual report, speaking of Scarlet Fever, says :—“ Both the attack-rate and the death-rate are the lowest ever recorded in the Borough, and are less than half the averages for the preceding decade. . . . Generally speaking, the wards in which the largest proportion of cases were removed to hospital suffered least.” Reference to the preceding tables shows that these remarks apply even more forcibly for 1904.

“**Fever.**”—59 cases of Typhoid Fever and 1 of Continued Fever were notified, and of these 8 deaths and 1 death respectively occurred. The “Fever” death-rate per 1,000 of the population was .08.

Of the 59 cases of Typhoid notified, 9 proved to be other diseases ; of the remaining 50, 8 were secondary cases, so that 42 houses were infected by this disease. Five of the 42 primary cases evidently received their infection outside the Borough.

The attack-rate for Typhoid, .54 per 1,000 of the population, is the lowest on record. See Table VII.

Infantile Diarrhœa.—There were 62 deaths from this disease, giving a rate of .57 per 1,000 of the population. The distribution of the disease in the different wards is shown on Table II.

Diphtheria and Membranous Croup.—73 cases were notified and 12 deaths occurred, giving a death-rate of .11 per 1,000 of the population.

Dr. T. E. Hill, the County Medical Officer of Health, has kindly provided me with returns of cases of diphtheria notified, and deaths from diphtheria in the Administrative County of Durham. These show that in the last seven years the cases notified have been continuously increasing from 206 to 1,559, while the deaths have increased from 58 to 269. This should warn us that the large increase of diphtheria in South Shields during 1903 and 1904 (See Table VII.) may be the beginning of a serious epidemic. For such an outbreak we are unprepared, as we have no hospital accommodation available for diphtheria, though it is a disease for which hospital treatment is peculiarly needed.

Measles caused 28 deaths—equal to .26 per 1,000 of the population. The ages at death were 6 under one year, 21 over one year and under five, and 1 between five and fifteen. Table III. shows that most of these deaths occurred in November and December, when the disease became epidemic.

Whooping Cough caused 64 deaths, the rate being equal to .59 per 1,000, a marked contrast to last year, when it was .03. In 1902 the rate was 1.01, illustrating the biennial incidence of this disease.

Ages at death :—Under 1 year, 22 ; 1 and under 5, 39 ; 5 and under 15, 2 ; 25 and under 65, 1.

SCHOOLS AND INFECTIOUS DISEASES.—The following departments or classes in the Council Schools were closed during 1904, on the advice of Dr. Boyd, Dr. Dalziel, or myself :—

School.	Department.	Classes.	From	To	Diseases prevalent.
Cone Street	Infants'	7	1/3/04	29/3/04	Measles.
Westoe Road	"	5 & 6	"	"	Scarlet Fever.]
Cone Street	"	6	22/3/04	19/4/04	Measles.
*Westoe Road	"	7	23/3/04	"	Mumps.
Holy Trinity	"	5, 7 & 9	19/5/04	11/6/04	Measles.
Baring Street	"	10	2/6/04	23/6/04	Mumps.
Barnes	"	8, 9	3/6/04	24/6/04	Measles.
Baring Street	"	2	3/10/04	24/10/04	Mumps.
St. Mark's	"	all	4/10/04	1/11/04	Measles.
Baring Street	"	"	19/10/04	9/11/04	Whooping Cough and Mumps.
Westoe Road	"	"	"	"	Whooping Cough, Chickenpox, and Measles.
Barnes	"	"	"	"	Whooping Cough, Mumps, and Measles.
Mortimer Road	"	"	20/10/04	10/11/04	Whooping Cough and Measles.
Laygate Lane	"	"	24/10/04	14/11/04	"
St. Bede's	"	"	"	"	"
St. Stephen's	"	"	25/10/04	15/11/04	Whooping Cough and Mumps.
Stanhope Road	"	6, 7, & 10	27/10/04	17/11/04	Mumps.
Ocean Road	"	7	"	"	Whooping Cough.
Baring Street	Juniors	9	28/10/04	18/11/04	Mumps.
St. Hilda	Infants'	all	3/11/04	24/11/04	Measles, Whooping Cough, and Mumps.
Frederick Street	"	"	10/11/04	1/12/04	Measles and Whooping Cough.
Cono Street	"	5, 6, 7 } all	29/11/04	Over Xmas	Mumps, Measles, and Whooping Cough.
"	"	1-4 }	1/12/04	Holidays.	"
"	"	all	5/12/04	"	Measles, Whooping Cough, Chickenpox and Mumps.
Frederick Street	"	"	6/12/04	"	"
St. Hilda	"	"	12/12/04	"	Measles, Whooping Cough, and Mumps.
Holy Trinity	"	"	"	"	"
St. Hilda	Mixed	"	"	"	"

* Closed on the initiative of the Head Mistress and the Education Secretary.

Tuberculosis.—There were 252 deaths from this disease made up as follows :—

Pulmonary Tuberculosis.....	164
Tabes Mesenterica	23
Tuber. Meningitis, &c.....	40
Other forms of Tuberculosis.....	25

The deaths from tubercular diseases per 1,000 of the population show a slight improvement, though the proportion of deaths from tubercular diseases to deaths from all causes has slightly increased. As regards phthisis death-rate we compare unfavourably with most large towns, as will be seen on referring to the table on pages 8 and 9.

PHTHISIS DEATHS, 1901 TO 1904.

OCCUPATION.	MALE.		FEMALE.	
	1901-3.	1904.	1901-3.	1904.
Agent	1	1	..	..
Baker	1	..	..	..
Barber.....	7	..	..	..
Barman.....	7	1	..	..
Billposter	1	..	..	..
Blacksmith	3	1	..	..
Block and Mast Maker	1	1	..	..
Bricklayer	6	4	..	..
Brushmaker .....	..	1	..	..
Butcher.....	1	1	..	..
Canvasser .....	..	..	1	..
Cartman	4	4	..	..
Carpenter	8	2	..	..
Charwoman .....	..	..	..	1
Clerk	11	7	1	..
Coal Miner	13	4	..	..
Coal Merchant	1	..	..	..
Coal Staithesman	1	..	..	..
Coal Trimmer	5	1	..	..
Colliery Wagonwayman	1	..	..	..
Commercial Traveller.....	1	..	..	..
Diver	1	..	..	..
Dock Stevedore.....	2	..	..	..
Domestic Servant .....	..	..	5	4
Draper	1	2	1	..
Drayman	1	..	..	..
Dressmaker .....	..	..	1	1
Engineman	3	1	..	..
Engineer	2	2	..	..
Engineer (Electrical).....	1	..	..	..
Engineer (Marine).....	6	3	..	..
Errand Boy	1	1	..	..
Fisherman .....	..	1	..	..
Foyboatman	1	..	..	..

PHTHISIS DEATHS, 1901 to 1904.

OCCUPATION.	MALE.		FEMALE.	
	1901-3.	1904.	1901-3.	1904.
Furnaceman	1	..	..	..
Glassmaker	3	..	..	..
Grocer	3	3	..	..
Greengrocer	1	..	..	..
Hawker	1	2	..	2
Horsekeeper	2	..	..	..
Housewife .....	..	..	146	43
Irondriller	1	..	..	..
Ironmonger	1	..	..	..
Iron Moulder .....	..	1	..	..
Joiner	7	4	..	..
Labourer (Dock)	7	2	..	..
Labourer (Field) .....	..	..	..	1
Labourer (General)	35	12	..	..
Labourer (Shipyard)	5	1	..	..
Laundress .....	..	..	1	..
Mineral Water Worker	2	..	..	..
Officer of Board of Trade	1	..	..	..
Painter	5	1	..	..
Patternmaker	1	..	..	..
Photographer	1	1	..	..
Physician	1	..	..	..
Pilot	1	1	..	..
Plasterer	1	..	..	..
Plumber	2	..	..	..
Railway Guard	1	1	..	..
Rivetter, Boilermaker, &c.	12	3	..	..
Sailmaker	1	..	..	..
Seaman	17	6	..	..
Sea Fireman	14	2	..	..
Sea Steward	3	..	..	..
Sea Donkeyman	2	1	..	..
Scholar	17	7	23	4
School Teacher	1	2	..	..
Shoemaker	4	..	..	..
Shop Assistant .....	..	..	2	..
Steamboatman	1	1	..	..
Stonemason	2	..	..	..
Tailor	2	..	..	..
Tram Conductor and Motorman	2	1	..	..
Wharfinger	1	..	..	..
None: Adults	9	2	28	9
„ Children	23	5	19	2
Unknown	6	..	..	..
Totals	292	97	228	67

TOTALS ... { 1901.... 160
1902.... 184
1903.... 176
1904.... 164

DEATHS FROM TUBERCULAR DISEASES in South Shields during past 11 Years.

Year.	Phtthisis.	All Causes.	Phtthisis % of all Causes.	Tuberc. Men. and Hydrocephalus.	Other Tuberc. Diseases.	Total Tuberc. Diseases other than Phtthisis.	Tub. Dis. (other than Phtthisis), % of Deaths from all Causes.	All Tuberc. Diseases.	All Tub. Dis., % of Deaths from all Causes.
1894	119	1470	8.09	24	39	70	4.71	189	12.8
1895	143	1845	7.75	20	49	94	5.05	237	12.8
1896	142	1628	8.72	34	45	98	5.98	240	14.7
1897	126	1558	8.09	28	42	84	5.31	210	13.4
1898	145	1988	7.29	16	48	82	4.11	227	11.4
1899	142	1937	7.33	20	23	66	3.40	208	10.7
1900	176	2077	8.42	30	28	77	3.77	253	12.1
1901	160	2028	7.89	16	24	71	3.50	251	11.3
1902	184	2011	9.15	31	31	67	3.33	251	12.5
1903	176	1805	9.80	32	30	75	4.15	251	13.9
Averages 1894-1903.	151	1835	8.25	25	35.9	78.4	4.33	231	12.5
1904	164	1948	8.42	40	25	88	4.52	252	12.9

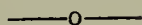
Average Death-rates from *Phtthisis* per 1,000 of the Population—

1871-80	.....	1.91
1881-90	.....	1.84
1891-00	.....	1.60
1901-04	.....	1.65
		1.78 mean.

THE BOROUGH HOSPITALS

FOR

INFECTIOUS DISEASES.



The following Table shows the number of patients admitted to and discharged from **Denes Hospital** during 1904 :—

Disease.	Remaining in on Dec. 31st, 1903.	Admitted during 1904.	Total Number Treated.	Discharged.	Died.	Remaining in on Dec. 31st, 1904.	Mortality per cent. of total number Discharged and Died.	Average Number of Patients in Hospital daily.
Scarlet Fever .	43	209	252	224	5	23	2.2	30.0
Enteric Fever.	2	29	31	20	3	8	1.3	3.0
Totals	45	238	283	244	8	31	3.2	33.0

DEATHS.—The duration of stay in hospital of fatal scarlet fever cases :—18 hours, 5 days, 17 days, 20 days, and 23 days. Enteric fever fatal cases :—7 days, 26 days ; the other one was in 21 days and died from influenza.

The number of cases admitted to the Denes Hospital is less than in any year since 1895.

DENES HOSPITAL.—The Hospital was first opened for the reception of Patients in May, 1883, and
the number of cases admitted year by year, since that date, is as follows;—

Disease.	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904
Smallpox	12	22	5	3	3	2	..	..	..	8	6	..	..	..	..	..	..	..	..	..	..	..
Scarlet Fever .	23	8	100	120	212	60	23	43	118	134	164	199	126	195	259	266	284	282	486	409	277	209
Enteric Fever.	7	16	9	11	9	6	15	35	17	8	42	26	66	65	47	107	114	44	66	35	29	29
Diphtheria . . .	..	..	2	..	1	1	2	3	1	1	..	..	..	..	..	..	1	1	..	..	..	..
Typhus Fever	3	16	3	..	..	2	..	1	..	2	..	..	..	..	..	..	..	..	..	..	..	..
Other Diseases	6	4	7	3	19	2	4	7	3	3	2	2	2	1	1	2	..	1	4	..	..	..
Totals	51	66	126	137	244	73	44	89	139	156	214	227	194	261	307	375	399	328	556	444	306	238

WHITELEAS SMALLPOX HOSPITAL.—All the notified cases of smallpox, viz., 101, and also 2 from the Rural District, were admitted. Of these cases 8 died (one in January, 1905).

The following shows the number of cases treated in the Whiteleas Hospital since the opening in 1892 :—

Disease.	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904
Smallpox	28	51	14	22	12	3	9	3	2	0	71	37	103



STATISTICAL TABLES.

TABLE I.—CAUSES OF DEATH, 1904, IN SOUTH SHIELDS, arranged according to the Classification of the Registrar-General, and including the deaths of "residents" in Harton Workhouse, Sedgely Asylum, &c., but excluding "non-residents" who died in the town. (See Table IV.)

CAUSES OF DEATH.	AGES.											Totals.	55 to 60
	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards.		
I.—Specific, Febrile, or Zymotic Diseases	87	97	19	4	10	10	12	2	5	..	..	246	..
II.—Parasitic Diseases .....	..	..	..	..	..	..	..	..	..	..	..	..	..
III.—Dietetic Diseases	12	6	..	1	2	3	3	..	..	..	..	27	..
IV.—Constitutional Diseases	27	51	38	47	49	44	52	30	12	3	..	353	16
V.—Developmental Diseases	83	..	..	..	..	..	..	12	45	53	12	205	2
VI.—Local Diseases	208	143	36	37	41	71	107	131	99	44	6	923	57
VII.—Deaths from Violence .....	..4	5	6	4	8	8	9	8	5	..	..	57	6
VIII.—Deaths from Ill-defined and not Specified Causes ..	111	12	2	1	2	3	2	2	2	..	..	137	..
Totals	532	314	101	94	112	139	185	185	168	100	18	1948	81
I.—SPECIFIC OR FEBRILE CAUSES.													
1.— <i>Miasmatic Diseases.</i>													
Plague .....	..	..	1	1	..	..	..	..	..	..	..	..	..
Smallpox { Vaccinated .....	..	..	2	..	1	..	..	..	..	..	..	3	..
{ Unvaccinated	1	..	..	..	..	1	..	..	..	..	..	3	..
{ Unknown .....	..	..	..	..	..	..	..	..	..	..	..	1	..
Measles	6	21	1	..	..	..	..	..	..	..	..	28	..
Scarlet Fever (Scarlatina) .....	..	8	..	..	..	..	..	..	..	..	..	8	..
Diphtheria .....	..	4	6	1	..	..	..	..	..	..	..	11	..
Membranous Croup .....	..	1	..	..	..	..	..	..	..	..	..	1	..
Whooping Cough	22	39	2	..	..	1	..	..	..	..	..	64	..

TABLE I.—Continued.

CAUSES OF DEATH.	AGES.											Totals.	55 to 60
	85 and upwards.												
	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards.		
Cancer, Malignant Diseases	..	..	..	..	5	6	24	19	11	2	..	67	9
Tuberc Mesenterica	9	9	4	..	..	1	..	..	..	..	..	23	..
Tubercular Meningitis, Hydrocephalus	6	22	10	1	1	..	..	..	..	..	..	40	6
Phthisis	2	6	12	36	41	32	25	9	..	1	..	164	..
Other Tubercular and Scrofulous Disease	5	8	7	3	..	1	1	..	..	..	..	25	..
Purpura, Hamorrhagic Diathesis	..	..	1	..	..	..	..	..	1	..	..	2	..
Anæmia, Chlorosis, Leucocythæmia	..	..	1	2	2	2	..	..	..	..	..	9	..
Glycosuria, Diabetes Mellitus	2	..	..	2	..	2	1	1	..	..	..	6	1
Other Constitutional Diseases	..	..	..	..	..	..	..	..	..	..	..	..	..
V.—DEVELOPMENTAL DISEASES.	..	..	..	..	..	..	..	..	..	..	..	..	..
Premature Birth	72	..	..	..	..	..	..	..	..	..	..	72	..
Atelectasis	6	..	..	..	..	..	..	..	..	..	..	6	..
Congenital Malformations	5	..	..	..	..	..	..	..	..	..	..	5	..
Old Age	..	..	..	..	..	..	..	12	45	53	12	122	2
VI.—LOCAL DISEASES.	..	..	..	..	..	..	..	..	..	..	..	..	..
1.—Diseases of Nervous System.	..	..	..	..	..	..	..	..	..	..	..	..	..
Inflammation of Brain or Membranes	9	22	11	3	1	3	1	..	..	..	..	50	..
Apoplexy	1	..	1	1	1	5	11	10	15	10	..	55	4
Softening of Brain	..	..	..	..	..	1	..	2	..	1	..	4	..
Hemiplegia	..	..	..	..	..	1	..	2	2	2	..	7	..
Brain Paralysis	..	..	..	..	..	1	..	..	1	..	..	2	..
Insanity, General Paralysis of the Insane	..	..	..	..	2	1	6	2	2	..	..	13	1
Epilepsy	..	1	..	1	3	1	1	..	1	..	..	8	..
Convulsions	64	14	2	..	..	..	..	..	..	..	..	80	..
Laryngismus Stridulus	..	..	..	..	..	..	..	..	..	..	..	..	..
Paralysis Agitans	..	..	..	..	..	..	..	..	..	..	..	..	..
Paraplegia	..	..	..	..	..	..	..	1	..	..	..	1	..
Diseases of Spinal Cord	..	..	..	..	..	2	..	..	..	..	..	2	..

VII.—VIOLENCE.

1.—*Accident or Negligence.*

Fractures and Contusions . . . . .	..	3	1	2	3	3	3	3	4	3	..	..	22	3
Gunshot Wound . . . . .	..	..	..	..	..	1	..	..	..	..	..	..	1	..
Cut, Stab . . . . .	..	..	..	..	..	1	..	..	..	..	..	..	6	..
Burn and Scald	1	1	4	..	..	..	..	..	..	..	..	..	..	..
Poison . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Drowning . . . . .	..	1	1	1	3	1	3	1	1	..	..	..	11	1
Privation . . . . .	..	..	..	..	..	..	..	..	1	..	..	..	1	1
Suffocation	3	..	..	..	..	..	..	..	..	..	..	..	3	..
Anesthetics . . . . .	..	..	..	..	..	1	1	..	..	..	..	..	2	..
Otherwise . . . . .	..	..	..	..	..	..	..	..	..	2	..	..	2	..

2.—*Homicide.*

Manslaughter . . . . .	..	..	..	..	..	..	1	..	..	..	..	..	1	..
Murder . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..

3.—*Suicide.*

Gunshot Wounds . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cut, Stab . . . . .	..	..	..	..	..	1	1	..	1	..	..	..	3	..
Poison . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Drowning . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hanging . . . . .	..	..	..	1	..	1	1	1	1	..	..	..	4	1
Otherwise . . . . .	..	..	..	..	1	..	..	..	..	..	..	..	1	..

VIII.—DEATHS FROM ILL-DEFINED CAUSES.

Dropsy . . . . .	..	12	1	1	..	..	..	..	..	1	..	..	1	..
Debility, Marasmus, Atrophy and Inanition	111	..	..	..	..	..	..	..	..	..	..	..	125	..
Mortification . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tumour . . . . .	..	..	1	..	..	..	..	..	..	..	..	..	1	..
Abscess . . . . .	..	..	..	..	1	..	..	..	..	..	..	..	1	..
Hæmorrhage . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sudden Death . . . . .	..	..	..	..	1	..	..	..	..	1	..	..	2	..
Natural Causes . . . . .	..	..	..	..	..	3	1	..	..	..	..	..	4	..
Other causes not specified or ill-defined	1	1	2	3	..

TOTALS

532	314	101	94	112	139	185	185	168	100	18	1948	81
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TABLE II.—SHOWING CAUSES OF, AND AGES AT, DEATH DURING YEAR 1904, IN OR BELONGING TO SOUTH SHIELDS; ALSO DISTRIBUTION OF DEATHS IN THE DIFFERENT WARDS.

Causes of Death.	Deaths in or belonging to the different Wards (at all ages).										Public Institutions in the Borough									
	NOTE.—Cols. 2 to 8 and 9 to 19 are NET DEATHS, I.E.,— Exclude Non-Residents who died in Public Institutions within the Borough, Include Residents who died in Institutions beyond the Borough.														Resi- dents. Includ- ed in cols. 2, 19.	Non-re- sidents. Exclud- ed from cols. 2, 19.				
	All Ages.	0 to 15	1 to 5	5 to 15	15 to 25	25 to 65	65 and over.	Shields.	St. Hilda.	Holborn.	Beacon.	Bents.	Westoe.	Laygate.	Reken- Dyke.	Deans.	Tyne Dock.	Residence unknown.	(20)	(21)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)		
Smallpox	7	1	21	3	1	2	...	2	1	1	1	...	...	2	...	...	1	...	...	...
Measles	28	6	8	1	...	...	...	...	1	1	...	2	4	4	9	7	...	...	5	...
Scarlet Fever	8	...	39	2	...	1	...	8	4	2	2	1	1	2	15	9	1	...	...	...
Whooping Cough	54	22	5	6	1	...	...	...	1	8	...	4	6	7	...	...	...	...	1	...
Diphtheria and Membranous Group	12	...	2	...	...	...	...	...	1	1	...	1	3	2	1	...	4	...	...	...
Group	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Typhus .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fever { Enteric	8	...	...	3	1	3	1	1	...	1	...	...	1	1	...	3	1	...	3	...
{ Other Continued	1	...	1	3	...	14	4	...	1	4	1	1	5	1	8	4	2	...	1	...
Epidemic Influenza	27	1	5	3	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Cholera .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Plague	62	46	15	1	...	...	...	7	3	10	1	2	7	12	4	12	4	...	...	...
Diarrhoea	25	16	6	...	1	2	...	2	...	4	1	1	4	2	4	4	3	...	...	...
Enteritis	3	...	...	...	1	2	...	...	...	...	...	1	1	1	...	...	...	...	...	...
Puerperal Fever .....	...	...	...	...	...	2	...	...	...	1	...	...	...	2	...	...	...	...	...	...
Erysipelas	4	1	1	...	...	2	...	...	...	...	1	...	...	...	...	...	...	...	...	...
Other Septic Diseases	6	...	1	...	...	5	...	...	1	1	...	...	2	...	...	...	1	...	1	...
Phthisis (Pulmonary Tuberculosis)	164	2	6	12	36	107	1	21	14	17	14	21	14	16	13	15	18	...	2	...
Other Tubercular Diseases	88	20	39	21	4	4	...	10	2	5	6	3	12	8	11	15	16	...	3	...
Cancer, Malignant Disease	67	58	34	3	...	54	13	9	3	3	4	8	9	7	9	7	3	...	6	...
Bronchitis	175	92	9	16	7	43	37	21	12	19	13	8	24	16	23	21	18	...	1	...
Pneumonia	92	9	16	4	...	51	9	19	5	8	10	7	7	13	5	13	4	1	3	...
Pleurisy	10	...	...	5	1	9	...	1	1	1	2	2	...	...	1	...	2	...	1	...
Other Diseases. Respiratory Organs	67	22	28	2	1	...	5	9	5	2	5	4	7	12	8	9	6	...	...	...
Alcoholism, Cirrhosis of Liver	25	1	...	...	1	17	6	3	3	2	4	2	1	2	4	2	2	...	1	...
Veneral Diseases	15	10	1	...	...	4	...	3	...	3	1	1	...	2	3	1	1	...	...	...
Premature Birth	72	72	...	...	...	...	...	7	3	2	4	4	13	6	10	11	12	...	...	...
Diseases & Accidents of Parturition	8	...	...	...	3	5	...	1	...	1	...	...	...	1	3	1	...	...	...	...
Heart Diseases	140	2	...	5	9	84	40	13	7	12	9	20	14	11	10	19	22	3	2	...
Accidents	48	4	5	6	3	25	5	...	...	8	10	3	1	8	1	4	8	2	15	...
Suicides	8	...	...	...	1	7	...	2	1	...	...	...	...	1	2	1	1	...	...	...
Homicides	1	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	1	...
All other Causes	711	239	77	28	23	179	165	70	38	56	63	55	80	80	100	90	79	...	24	1
All Causes	1948	532	314	101	94	621	286	212	106	172	153	153	215	219	245	250	216	7	71	1

NOTE.—Cols. 2 to 8 and 9 to 19 are NET DEATHS, i.e.,—
Exclude Non-Residents who died in Public Insti-
tutions within the Borough.
Include Residents who died in Institutions beyond
the Borough.

TABLE III.—DEATHS DURING THE YEAR 1904 IN SOUTH SHIELDS—INCLUDING THE DEATHS OF “RESIDENTS” IN HARTON WORKHOUSE, SEDGEFIELD ASYLUM, &c., BUT EXCLUDING “NON-RESIDENTS” WHO DIED IN THE TOWN—CLASSIFIED ACCORDING TO AGES, DISEASES, AND THE MONTHS IN WHICH THEY OCCURRED.

AGES AT DEATH.						Deaths at all Ages.		MONTH.	FATAL DISEASES.																	
Under 1 year.	1 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 65 years.	65 and upwards.	Smallpox.	Measles.		Scarlet Fever.	Diphtheria.	Membr. Croup.	Whooping Cough.	Enteric or Typhoid.	Typhus.	Other or Doubtful.	Diarrhoea.	Rheumatic Fever.	Erysipelas.	Pyæmia and Septicæmia.	Puerperal Fever.	Ague.	Phtisis.	Bronchitis, Pneumonia & Pleurisy.	Injuries.	Heart Disease.	All other Diseases.
44	27	5	7	63	26	172	January..	1	..	2	1	..	..	1	4	..	..	1	1	..	..	19	35	4	16	87
33	17	9	7	39	33	138	February	1	..	..	1	..	..	1	..	..	..	..	..	..	7	16	5	13	91	
40	20	7	12	60	30	169	March ...	1	1	..	2	..	..	..	..	..	..	..	..	..	11	34	6	12	101	
41	23	8	12	44	16	144	April ...	1	1	..	2	..	..	..	..	1	..	..	1	..	18	23	5	10	82	
41	22	15	9	55	22	161	May	1	1	..	2	..	..	..	2	1	..	1	..	..	16	20	7	11	95	
41	17	9	9	43	23	142	June .....	..	1	..	2	..	..	..	..	..	..	1	..	..	17	17	1	11	89	
30	25	9	5	48	12	129	July .....	..	1	..	2	..	..	..	..	..	..	1	..	..	..	9	13	2	12	77
32	18	4	5	39	18	116	August...	..	5	1	2	..	..	..	5	..	..	..	..	1	..	16	11	4	10	62
61	24	4	6	48	25	168	September	..	..	1	8	..	..	..	21	..	1	..	1	1	..	10	16	5	12	93
41	31	9	5	56	29	171	October ..	..	2	1	7	1	..	..	14	1	..	..	1	1	..	16	25	10	10	88
67	46	7	9	60	23	212	November	1	10	1	17	..	..	..	4	..	..	..	1	1	..	11	34	10	10	111
61	44	15	11	66	29	226	December	2	9	..	15	1	..	..	2	..	..	..	1	1	..	14	33	3	13	129
532	314	101	94	621	286	1948	Totals ...	7	28	8	11	1	64	8	1	62	2	4	6	3	..	164	277	57	140	1105

TABLE IV.—VITAL STATISTICS OF SOUTH SHIELDS DURING 1904 AND PREVIOUS YEARS.

Year.	Population estimated to Middle of each year.	Births.		Total Deaths occurrng in the Borough.				Deaths in Public Institutions in the Borough.	Deaths of Non-residents registered in the Borough.	Deaths of Residents registered in Public Institutions beyond the Borough. §	Net Deaths at all Ages belonging to the Borough.	
		Number.	Rate.*	Under 1 Year of Age.		At all Ages.					Number.	Rate.*
				Number.	Rate per 1,000 Births registered.	Number.	Rate.*					
1	2	3	4	5	6	7	8	9	10	11	12	13
1894	84,077	3,018	35.9	418	138	1,369	16.2	39	11	101	1,459	17.3
1895	85,910	3,018	35.1	566	187	1,749	20.3	31	13	96	1,832	21.2
1896	87,784	3,140	35.7	521	165	1,526	17.3	33	4	102	1,624	18.5
1897	89,699	3,227	35.9	499	154	1,477	16.4	39	6	81	1,552	17.2
1898	91,656	3,395	37.0	618	182	1,842	20.0	60	11	146	1,977	21.5
1899	93,657	3,371	36.0	593	175	1,829	19.5	75	20	108	1,917	20.7
1900	95,703	3,482	36.3	560	160	1,917	20.0	83	23	160	2,054	21.4
1901	97,800	3,607	36.8	613	169	1,865	19.0	90	8	163	2,020	20.6
1902	103,330	3,759	36.4	563	149	1,862	18.0	90	16	165	2,011	19.4
1903	105,325	3,635	34.5	479	132	1,669	15.8	74	29	165	1,805	17.1
Averages for years 1894-1903.		3,365	35.9	543	161	1,710	18.2	61	14	128	1,825	19.4
1904	107,334	3,705	34.5	522	141	1,773	16.5	71	1	176	1,948	18.1

* Rates in Columns 4, 8, and 13 calculated per 1,000 of estimated population.

§ Includes Whiteleas Hospital, Harton Workhouse, Sedgefield Asylum, and Durham Goal.

NOTE.—The deaths included in Column 7 of this Table are the whole of those registered during the year as having actually occurred within the Borough. The deaths included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

By the term "Residents" is meant persons who have been taken out of the Borough on account of sickness or infirmity, and have died in public institutions elsewhere; and "Non-Residents" *vice versa*.

The "Public Institutions" taken into account for the purposes of this Table are those into which persons are habitually received on account of sickness or infirmity, such as hospitals, workhouses and lunatic asylums.

TABLE V.—BIRTH-RATES AND DEATH-RATES, SOUTH SHIELDS, 1871-1904 (PER 1,000 OF THE POPULATION).

YEAR.	Population.	Deaths under 1 year per 1,000 Births.	Gross Death-rate.	Zymotic Death-rate.	Small-pox.	Measles.	Scarlet Fever.	*Diphtheria	Whooping Cough.	"Fever."	Diarrhoea.	Krysipelas, Pyæmia, and Puerperal Fev.	Phthisis.	Tuberc. Mesenterica.	Other Tuberc. Diseases.	Cancer.	Dis. of Circulatory System.	Dis. of the Nervous System.	Dis. of the Respiratory System.	Dis. of the Urinary System.	Dis. of the Reproductive System.	Violence.	Birth-rate.
Mean 1871-80. ....	.....	164	25.5	6.0	.858	.42	1.44	.12	.78	.79	1.59	.25	1.91	...	...	...	1.23	...	...	...	...	.84	43.1
Mean 1881-90. ....	.....	140	20.5	2.3	.012	.34	.45	.10	.44	.19	.78	.12	1.84	...	...	...	1.64	...	...	...	...	.59	38.8
1891	78,920	176	22.1	2.85	.000	.90	.11	.29	.60	.20	.73	.14	1.54	.20	.69	.39	1.59	2.96	4.32	.31	.16	1.01	37.4
1892	80,530	143	19.4	1.66	.000	.29	.12	.09	.33	.21	.55	.18	1.51	.36	1.16	.60	1.82	2.87	3.41	.43	.07	.67	37.0
1893	82,284	180	22.4	3.18	.036	.38	.38	.06	.36	.37	1.56	.09	1.99	.42	.86	.48	1.93	2.79	2.95	.39	.15	.81	35.4
1894	84,077	138	17.3	1.36	.000	.19	.39	.05	.17	.20	.42	.06	1.41	.08	.74	.71	1.72	2.23	3.14	.46	.10	.77	35.9
1895	85,910	187	21.2	3.36	.000	.29	.18	.18	.93	.34	1.42	.05	1.65	.29	.80	.62	1.60	3.02	5.04	.31	.16	.66	36.1
Mean 1891-95. ....	.....	165	20.5	2.48	.007	.41	.23	.14	.47	.26	.94	.10	1.62	.27	.85	.56	1.73	2.77	3.77	.38	.13	.78	36.1
1896	87,784	165	18.5	2.49	.000	.92	.18	.10	.42	.28	.58	.01	1.61	.21	.90	.61	2.01	2.59	3.14	.28	.11	.53	35.7
1897	89,699	154	17.2	1.83	.000	.28	.15	.09	.25	.16	.88	.07	1.40	.15	.77	.59	1.41	3.33	2.66	.27	.12	.62	35.9
1898	91,651	182	21.5	3.09	.000	.56	.25	.00	.77	.39	1.11	.11	1.58	.19	.69	.64	1.79	2.83	3.84	.31	.14	.80	37.0
1899	93,657	175	20.7	2.33	.000	.04	.21	.06	.12	.47	1.41	.08	1.57	.24	.44	.59	1.43	2.65	3.98	.57	.17	.90	36.0
1900	95,703	160	21.4	2.33	.000	.55	.21	.12	.67	.19	.55	.12	1.83	.19	.60	.73	1.96	2.34	3.67	.48	.11	1.07	36.3
Mean 1896-1900. ....	.....	167	19.8	2.41	.000	.47	.20	.07	.44	.30	.90	.08	1.59	.20	.68	.71	1.72	2.75	3.46	.38	.13	.78	36.2
Mean 1891-1900. ....	.....	166	20.1	2.44	.003	.44	.21	.10	.45	.28	.92	.09	1.60	.23	.76	.63	1.72	2.76	3.61	.38	.13	.78	36.1
Mean 1871-1900. ....	.....	157	22.0	3.60	.291	.40	.70	.11	.56	.42	1.10	.15	1.78	...	...	...	1.53	...	...	...	...	.74	39.3
1901	97,800	169	20.6	3.36	.000	.68	.60	.14	.10	.22	1.50	.09	1.63	.31	.40	.68	1.65	2.83	2.84	.51	.10	.69	36.8
1902	103,350	149	19.4	2.62	.039	.92	.38	.06	.01	.06	.16	.14	1.80	.04	.60	.63	1.79	2.83	3.15	.37	.21	.73	36.4
1903	105,325	132	17.1	1.01	.009	.14	.11	.15	.03	.09	.47	.08	1.67	.12	.59	.69	1.59	2.45	3.16	.45	.21	.55	34.5
1904	107,354	144	18.1	1.77	.065	.26	.07	.11	.59	.08	.57	.12	1.52	.21	.60	.62	1.44	2.22	3.22	.42	.11	.53	34.5

* Includes Membranous Croup from 1893.

TABLE VI.—CASES OF INFECTIOUS DISEASE NOTIFIED AND REMOVED TO HOSPITAL IN SOUTH SHIELDS DURING THE YEAR 1904, CLASSIFIED ACCORDING TO WARD AND AGE.

Notifiable Disease.	Cases Notified in whole Borough.						Total Cases Notified in each Ward.										No. of such Cases Removed to Hospital from each Ward.											
	At all Ages.	At following Ages—Years.						Shields.	St. Hilda.	Holborn.	Beacon.	Bents.	Westoe.	Laygate.	Rekenlyke.	H Deans.	Tyne Dock.	Shields.	St. Hilda.	Holborn.	Beacon.	Bents.	Westoe.	Laygate.	Rekenlyke.	H Deans.	Tyne Dock.	
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 65.	65 and upwards.																					
Smallpox	101	3	2	18	24	54	..	17	..	15	10	11	5	24	9	4	6	17	..	15	10	11	5	24	9	4	6	38
Cholera	69	..	10	44	8	7	..	1	1	2	11	9	19	8	4	6	2	..	..	..	..	..	..	..	..	..	..	43
Diphtheria	4	..	3	..	1	..	..	4	7	8	11	9	14	10	10	17	1	..	..	..	..	..	..	..	..	..	..	36
Membranous Croup	99	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Erysipelas	278	2	112	143	11	9	..	17	5	5	10	39	74	16	30	50	32	15	4	4	8	29	46	14	25	32	27	..
Scarlet Fever .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Typhus Fever	59	..	5	16	14	22	2	3	2	6	4	6	5	8	5	10	10	2	..	6	..	1	3	5	2	7	5	..
Enteric Fever .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Relapsing Fever	1	..	1	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Continued Fever	3	..	..	..	..	3	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Plague .....	..	..	..	..	..	..	..	19	18	15	15	40	79	26	41	77	81	..	..	..	..	..	..	..	..	..	..	..
Chickenpox	411	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	1,025	..	..	..	..	..	..	62	33	51	61	115	197	93	99	166	148	34	4	25	18	41	52	43	36	43	38	..

ISOLATION HOSPITALS { Deans Fever Hospital, situate in Deans Ward.
Whiteleas Smallpox Hospital, situate $\frac{1}{2}$ mile South of the Borough Boundary.

TABLE VII.—COMPARATIVE RATES OF PREVALENCE OF SICKNESS AND DEATH FROM
INFECTIOUS (NOTIFIABLE) DISEASES.

(Rates calculated per 1,000 of the population, estimated to the middle of each year).

Year.	Smallpox.		Cholera.		Erysipelas.		Diphtheria and Membranous Group.		Scarlet Fever.		Typhus Fever.		Enteric Fever.		Continued and Relapsing Fevers.		Puerperal Fever.		Plague.	
	Attack	Death.	Attack	Death.	Attack	Death.	Attack	Death.	Attack	Death.	Attack	Death.	Attack	Death.	Attack	Death.	Attack	Death.	Attack	Death.
1894	.16	.000	..	..	1.43	.02	.54	.05	8.4	.39	..	..	.90	.20	.08	..	.08	.02	..	..
1895	.25	.000	..	..	.90	.03	.40	.18	4.4	.18	..	..	1.77	.34	.29	..	.04	.01	..	..
1896	.13	.000	..	..	1.25	.01	.44	.10	5.4	.18	..	..	1.43	.26	.24	.01	.04	..	..	..
1897	.03	.000	..	..	1.16	.04	.42	.09	7.1	.15	..	..	.86	.15	.15	.01	.10	.03	..	..
1898	.06	.000	..	..	1.44	.02	.18	..	6.9	.25	..	..	1.80	.39	.08	..	.08	.06	..	..
1899	.02	.000	..	..	.92	.03	.35	.06	7.1	.21	..	..	1.90	.47	.02	..	.04	.02	..	..
1900	.02	.000	..	..	.83	.05	.30	.12	5.3	.21	..	..	.74	.20	.06	..	.04	.02	..	..
1901	..	.000	..	..	.80	.03	.36	.14	12.5	.60	..	..	1.17	.22	.02	..	.05	.01	..	..
1902	.68	.039	..	..	.95	.03	.26	.06	8.0	.38	..	..	.64	.03	..	..	.07	.03	..	..
1903	.33	.009	..	..	1.04	.03	.79	.15	3.6	.11	..	..	.55	.09	..	..	.06	.02	..	..
Av'ge	.17	.005	..	..	1.05	.03	.40	.09	6.8	.26	..	..	1.17	.23	.09	.002	.06	.02	..	..
1904	.94	.065	..	..	.91	.03	.68	.11	2.9	.07	..	..	.54	.07	.01	.01	.02	.02	..	..

TABLE VIII.—RESULT OF METEOROLOGICAL OBSERVATIONS, 1904, TAKEN AT 9 A.M. DAILY, AT THE NORTH MARINE PARK. SOUTH SHIELDS; ABOUT 20 FEET ABOVE SEA LEVEL.

MONTH.	Mean Humidity.	Mean Temperature.	Highest Temperature Registered.	Lowest Temperature Registered.	Total Rainfall (in inches).	(Greatest fall in any twenty-four hours.	Number of Days on which rain fell (.01 ins. or more).	Anemometer—Mean Daily Mileage.	Barometer.	1 foot Earth Thermometer.	4 feet Earth Thermometer.	DIRECTION OF WIND— NUMBER OF DAYS.
January . . .	86.1	39.7	53.0	28.0	1.36	.56	15	336	29.800	37.0	45.0	SW, 15; S, 9; W, 4; SE, 2; N, 1.
February . . .	85.3	38.0	51.0	28.0	2.13	.37	20	355	29.493	36.9	44.1	SW, 14; S, 5; N, 4; W, 3; NE, 1; E, 1; SE, 1.
March	81.6	40.0	56.5	28.5	.92	.20	16	393	29.976	38.2	43.3	SW, 9; NE, 9; W, 4; SE, 3; N, 3; S, 2; E, 1.
April	75.0	47.7	63.0	33.0	1.51	.27	17	413	29.781	45.6	45.3	W, 9; SW, 7; N, 4; NW, 3; S, 3; E, 2; SE, 1; NE, 1.
May	76.3	50.6	68.0	37.0	2.51	.87	14	350	29.875	51.2	48.5	N, 8; SW, 7; W, 5; S, 5; E, 3; NE, 2; SE, 1.
June	76.5	55.2	70.0	43.0	1.92	1.36	10	350	30.014	57.5	51.8	NE, 7; W, 6; N, 5; S, 3; SW, 3; SE, 2; NW, 2; E, 2.
July	75.9	61.1	77.0	48.0	.98	.24	13	258	29.982	62.8	54.9	W, 6; SW, 6; E, 6; S, 3; SE, 3; NE, 3; N, 3; NW, 1.
August	75.0	59.6	80.0	43.0	2.63	1.13	16	310	29.920	58.9	56.2	W, 8; S, 6; SW, 4; NW, 4; N, 4; SE, 3; E, 1; NE, 1.
September . .	79.3	55.8	72.0	42.0	.69	.24	6	323	30.049	54.7	55.3	SW, 7; S, 5; N, 4; NE, 4; E, 3; SE, 3; W, 3; NW, 1.
October	79.7	50.1	63.5	34.0	.86	.25	9	283	30.016	47.4	52.9	W, 10; SW, 10; N, 5; S, 2.
November . . .	83.2	42.9	58.5	27.0	2.61	.55	16	369	29.946	41.6	50.6	W, 15; SW, 8; N, 4; S, 2; NE, 1.
December . . .	85.5	39.0	56.5	25.0	1.62	.33	13	323	29.786	37.1	47.0	SW, 19; W, 5; S, 3; N, 2; NW, 1; NE, 1.
TOTALS . . .	..	..	..	..	19.74	..	165	..	..	..	..	SW, 109; W, 78; S, 48; N, 47; NE, 30; E, 23; SE, 19; NW, 12.
AVERAGES . .	80	48.3	..	..	..	..	..	339	29.886	47.4	49.6	

GENERAL SANITARY WORK.

HOUSING OF THE WORKING CLASSES ACT.—PART II.—During the year the dwellings detailed in the list below were reported by Dr. Boyd as “unfit for human habitation,” and notices were served on the owners in accordance with this Act :—

Situation.	No. of Rooms.	No. of Tenants.	No. of Persons.	M.O.H.'s Representation.	At Court.	Result.
28, Back Franklin Street	2	1	1	Jan. 19	Feb. 26	Closing Order.
4, Mason's Lane	1	1	1	“	“	Do.
22 23, Long Row	12	5	8	“	“	Do.
Saltwell Lane and Spring Lane	24	13	44	Feb. 16	Mar. 18	Do. Demolition order served Aug. 30; Oct. 20, plan approved for “Rowton” House to accommodate 103 lodgers, work now proceeding.
11, Oliver Street	4	4	...	“	“	Closing Order.
53, Dock Street	1	1	1	“	“	Do.
13, Academy Hill	1	1	1	“	“	Do. , now demolished.
45, Shadwell Street.....	...	...	...	June 21	...	Subsequent action taken under Public Health Act, 1875.
Marshall's Quay, Shadwell Street	12	3	14	“	Sept. 8	Closing Order.
21, Long Row	6	?	?	“	...	Committee ordered subsequent action under Public Health Act, 1875.

HOUSE TO HOUSE INSPECTION by Mr. Lewthwaite and Mr. Ayre has been made of Wellington Street, Heron Street, Lady's Walk, Shadwell Street, and Wapping Street, entailing a considerable amount of time. The number of visits were 228, and numerous sanitary defects were found and remedied, whilst greater cleanliness of the tenants was urged, and in some cases insisted upon by the service of requisite notices. Mr. Weir carried out a yard-to-yard inspection of the Rekendyke Ward part of the following streets :—John Williamson Street, Frederick Street, Campbell Street, Palmerston Street, and Eldon Street. As a result many defective bricked yards were re-laid with cement concrete.

WEST HARTON.—SANITARY IMPROVEMENTS.—On November 7th the Health Committee visited the Harton Coal Company's property at Harton Colliery, and inspected West Row, Single Row,

Quality Row, and Double Row, accompanied by Mr. George May, Manager for the Company. Alterations were suggested in the plans submitted for the re-construction of the yards and out-houses, and Mr. May promised to submit new plans to the Town Improvement Committee for approval.

CUSTOMS AND INLAND REVENUE ACT, 1890.—Several applications for certificates of exemption from Inhabited House Duty were made to Dr. Boyd, and granted or refused as the sanitary condition permitted.

COMMON LODGING HOUSES.—The Inspectors made 254 visits by day to these houses, which are also inspected daily and nightly by a special officer of the Police. During the year, on the suggestion of Dr. Boyd, reductions were made in the number of lodgers allowed in 6 houses, and other alterations, (*e.g.*, men's kitchen accommodation, provision of wash-basins) as part of a general policy to level up these houses to the standard of the most satisfactory. One house in Saltwell Lane was closed under the Housing of the Working Classes Acts, and has since been demolished along with some other houses. The site has been cleared, and on it is being erected a large Common Lodging House on the "Rowton" principle, which promises to be a model of its kind.

The following Table gives the number of Common Lodging Houses for each year since 1892 :—

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904
Number existing	33	32	18	17	17	18	21	24	24	22	22	23	22
Accommodation	900	801	335	370	374	..	..	701	705	968	668	695	678

HOUSES LET IN LODGINGS.—There are at present on the register 11 of these houses, comprising 66 rooms let furnished at 4/- a week. No additions have been made since the register was started in 1902 ; but during last year two in Spring Lane and Saltwell Lane were closed under the Housing of the Working Classes Acts, and pulled down along with the Common Lodging House mentioned above. There is at present no proper arrangement for the systematic inspection of this class of houses, which are all situated in the riverside portion of the Shields Ward. Mr. Lewthwaite, the Inspector for that district, made 177 visits to them during 1904.

SEAMEN'S BOARDING HOUSES.—The Inspectors made 500 visits to these houses, which are, like the Common Lodging Houses,

inspected by a special Officer of the Police. The following table shows how they stood up to the end of 1904 :—

	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904
Number existing	120	..	..	..	..	80	73	71	79	78	79
Accommodation	775	760	738	862	866	840

FACTORY AND WORKSHOP ACT, 1901.—There are 197 registered workshops in the Borough. Nearly 300 visits were made by the Inspectors. I also visited many of them. The following is a list of the more important classes of workshops :—

Bakehouses	31
Millinery	35
Dressmaking	24
Tailoring	23
Joinery	14
Shoemaking	11

In one case the W.C. accommodation being insufficient, a new closet of the pedestal wash-down type was provided ; in three others the W.C. flushing being found defective, was rectified, and in 15 others lime-washing was ordered.

Four workshops were found without a copy of the abstract of the Factory and Workshop Act affixed, and were reported to H.M. Inspector of Factories.

Plans have been passed for two new bakehouses. The general condition of the existing ones is good. There are now only 3 that come within the definition of underground, one having been closed during 1904.

COWSHEDS, DAIRIES, AND MILKSHOPS.—These have been regularly inspected during the year by the Meat Inspector.

SLAUGHTERHOUSES.—The condition of these is unchanged, and no great alteration can be looked for, seeing that the public Slaughter-house will soon be built.

ICE-CREAM SHOPS.—Mr. Pollock has also kept these places under supervision, the materials and vessels being frequently inspected.

FRIED FISH SHOPS.—There have been no complaints during the year. In several cases improvements have been made in the cooking apparatus, which have tended to diminish the annoyance arising from steam and smell of cooking.

FOOD AND DRUGS ACTS.—23 per cent. of the samples taken during 1904 were found defective, against 20 per cent. last year. The number taken averaged 1.5 per 1,000 of the population. Details of the samples taken, and the reports of the Analyst will be found in Table G.

Dr. Boyd made the following report on July 19th :—

“PRESERVATIVES IN MILK.—In accordance with resolution of your Committee at your meeting on June 21st. I beg to present the following report :—

The use of preservatives in milk has become very common during the last few years. The object of adding these substances to the milk is to prevent souring and various fermentative changes occurring in the milk. These changes in milk are due to the action of bacteria, and the preservative prevents the growth of bacteria, and hence prevents the consequence of such growth.

A large number of different substances have been used as preservatives, but boracic acid and formalin are perhaps commonest. The question as to whether the addition of chemical preservatives to milk is justifiable, is a very important one, and has engaged the attention of a number of scientific observers in the country. It was also included in the scope of the investigation of a Parliamentary Committee “appointed to enquire into the use of preservatives and colouring matters in the preservation and colouring of food.”

Of all food substances, perhaps milk is the one the absolute purity of which it is most essential to procure. The reason of this is apparent, as it is so largely the food of young infants, of persons suffering from illness, and of delicate people generally. At the present time, unfortunately, a large proportion, at least, of the milk, is very far from being pure, quite apart from the addition of chemical preservatives. Dirty, ill-groomed cows, insanitary byres, and careless milkers combine to contaminate the milk before it leaves the farm. Imperfect methods of carriage and of storage further pollute the milk before it reaches the consumer. Such milk, in particularly hot weather, readily and quickly turns sour, but even without being sour, it contains substances highly injurious to health, and is swarming with bacteria.

In order to prevent the natural souring of such milk, and for the purpose of keeping milk perhaps less dangerously polluted, for an undue length of time, the chemical preservatives above-mentioned are added. These preservatives are in themselves, as shown by the expert evidence given before the Parliamentary Committee, more

or less injurious ; but it must be borne in mind that it is not only by their own properties that they are capable of doing harm, but also by permitting the sale of stale and dirty milk.

It was clearly shown by the evidence before the above mentioned Committee by some of the best dairy Companies in the country, that the use of chemical preservatives is quite unnecessary, even where the milk is brought long distances before it is supplied to the customers. By strict cleanliness in the methods of collection and distribution, together with the adoption of processes of cooling, the milk remains sweet and fresh for a reasonable length of time. If milk is to be preserved for several days or weeks, it should be subjected to sterilization by heat, by which means the bacteria contained in it are killed.

The Parliamentary Committee, whose report was issued in 1901, made several recommendations, two of which were as follows :

(1) That the use of formaldehyde or formalin or preparations thereof in foods or drinks be absolutely prohibited.

(2) That the use of any preservative or colouring matter whatever in milk be constituted an offence under the "Sale of Food and Drugs Acts."

I may conclude with a few words regarding the two most commonly used preservatives :—

FORMALDEHYDE.—As regards this substance it will be seen that the Committee above-mentioned, object to its use as a preservative in any kind of food, and its presence in milk to the extent shown by some of the samples—2 to 4 parts per 100,000—is, I consider, highly objectionable and dangerous.

This substance is a poisonous gas prepared from wood spirit by a process of oxidation. The gas is extensively used as a disinfectant, having a strong bactericidal action. For commercial purposes it is made up in a 40 per cent. solution, to which the name of formalin has been given. Just as it destroys bacteria, so it has a tendency, more or less marked in accordance with the strength of solution, to destroy or weaken the cells of the human body. In the stomach it interferes with the process of digestion in two ways :—(a) By coagulating albuminous substances in the food, such as the casein of milk, rendering such substances difficult of digestion ; and (b) by weakening the digestive juices, and thus further retarding the process of digestion. These results have been proved by experiments in the case of solutions very little stronger than is found in this preserved milk. In larger doses it acts as a blood poison, converting hæmoglobin into hæmatin.

Although it is possible that a healthy adult might not suffer ill effects from a solution of the strength of 2 parts in 100,000, if not consuming more than a pint of milk a day, the consumption of larger quantities would be productive of injurious effects, and in the case of infants and invalids, such effects might be very serious; moreover, this proportion is frequently exceeded; one of the samples recently taken in this Borough contained 4 parts per 100,000.

BORACIC ACID.—This substance is chiefly used as a preservative in combination with borax under the name of boron. Boracic acid is largely used in surgeries as an antiseptic. It cannot be regarded as such a dangerous or injurious substance as formaldehyde, and it is possible that a minute quantity would do no harm to a healthy adult. It is used as a drug in doses of from 5 to 15 grains for sundry purposes. The presence, however, of this substance in milk must be strongly objected to inasmuch as this is the food of infants and invalids. In infants it has been found to produce dyspepsia, wasting and, according to some writers, diarrhoea. It retards digestion, and is apt to irritate the lining of the stomach and bowels. Its ingestion is also dangerous where kidney disease is present, or in diseases in which the kidneys tend to become affected, such as scarlet fever. The same is true, to a less extent, in typhoid fever. When it is remembered that large quantities of milk are consumed in these diseases, the importance of preventing the presence of such a drug in milk will be appreciated.

There can, in my opinion, be no doubt whatever that the use of chemical preservatives is totally unjustifiable, and likely to result in injury to those special classes of the community by whom this food is largely used; and even putting aside the actual danger to health, I contend that the public generally are entitled to be supplied with pure, fresh milk, in accordance with Section 6 of the Sale of Food and Drugs Act, 1875, which states:—

“No person shall sell to the prejudice of the purchaser any
“article of food which is not of the nature, substance, and
“quality of the article demanded by such purchaser, under a
“penalty not exceeding £20.”

The only exception to the above Section which is permissible is “when the substance added is required for the production or preparation of the food as an article of commerce.” As mentioned above, this addition of preservatives has been shown by practical dairymen to be unnecessary in the case of milk.”

REPORTS

OF THE

INSPECTORS OF NUISANCES

AND THE

INSPECTOR OF MEAT, FOOD AND DRUGS, &c.,

Being a Summary of their Monthly Reports

to the Health Committee during 1904.

TABLE A.—PRELIMINARY NOTICES ISSUED FOR THE
ABATEMENT OF NUISANCES.

NUISANCES :—	J. J. Hindmarch.	W. Clark.	R. W. Weir.	G. R. Lewthwaite.	Totals.
Privy Midden : Defective .....	..	11	..	7	18
Privy Receptacles: Insufficient Accommodation .....	..	..	4	..	4
Defective	1	1	1	4	6
Hatches, Seats, &c., off	15	23	46	40	124
Liquid soaking from.... ..	3	5	37	16	111
Filthy	1	1	4	..	6
W.C.s: Obsolete Type, abolish .....	..	..	2	3	5
Defective Basins .....	..	..	2	6	8
" Joints .....	..	..	2	5	7
" Soilpipe .....	..	1	1	4	6
" Flush..... ..	..	..	1	6	7
Choked .....	..	1	9	11	21
" (Fowler type) .....	..	..	9	7	11
" Filthy Basins.... ..	..	..	12	..	12
Urinals: Absence of .....	..	..	..	1	1
Insanitary (P.H.) .....	..	..	2	..	2
Drains: Absence of..... ..	..	..	1	3	4
Defective..... ..	3	1	11	8	23
Gully absent .....	..	..	..	2	2
" defective .....	..	..	4	3	7
Choked	5	18	63	25	111
Washups, insanitary	16	..	4	3	23
" untrapped..... ..	21	23	12	10	66
Dwellings: Defective Roofs	2	1	4	30	37
" Ceilings..... ..	..	..	1	12	13
" Floors .....	..	..	1	8	9
Floors unventilated..... ..	..	1	..	1	2
Defective Window Cords .....	..	..	1	8	9
" Spouts and Downcomers	1	3	1	15	20
Choked Spouts and Downcomers .....	..	..	3	1	4
Dampness .....	..	1	5	12	18
Absence Water Supply	1	4	11	6	22
Overcrowded	1	..	3	..	4
Cellar, permitting to occupy .....	..	..	..	1	1
Filthy	3	5	12	7	27
" Common Staircase..... ..	..	1	1	28	30
Keeping Animals..... ..	9	3	3	9	24
Seamen's Boarding House Byelaws: Breach of .....	..	..	10	..	10
Common Lodging Houses Byelaws: Breach of..... ..	..	..	3	..	3
Yards and Areas: Defective and unpaved..... ..	14	25	74	72	185
Filthy .....	..	9	13	4	26
Foul Underground Rainwater Cisterns ..	3	3	5	3	14
Outbuildings: Dilapidated	2	..	2	7	11
Filthy .....	..	3	15	3	21
Accumulations of Refuse	9	2	8	35	54
Workshops: Absence W.C. Flush..... ..	..	..	1	1	2
Cleanse and Linewash..... ..	..	..	15	..	15
Stables: Absence of Drainage .....	..	1	..	1	2
Defective Floor .....	..	1	..	1	2
Absence of Manure Receptacle..... ..	..	1	..	1	2
Reconstruct " " .....	..	..	1	2	3
Totals	109	149	465	432	1155
Statutory Notices Served	9	22	35	25	91
Letters Written	2	23	83	42	150
Notices to Surveyor..... ..	1	11	6	18	36
" Scavenging Superintendent..... ..	9	13	20	7	49

TABLE B.—STRUCTURAL WORK CARRIED OUT DURING
1904.

	J. J. Hindmarch.	Wm. Clark.	R. W. Weir.	G. R. Lewthwaite.	Totals.
Privy Receptacles, in lieu of middens.	11	..	1	12
" " repaired	2	2
W.C.'s, (pedestal wash down) sub- stituted for privy middens	18	..	..	18
W.C.'s substituted for privy receptacle	3	..	1	4
" " " obsolete type..	..	3	12	3	18
" " " additional	14	..	1	15
" " " defective basins replaced	4	4
" " " flush provided	2	..	2
Urinals (P.H.) erected	1	1
" " " improved	3	2	5
Drains, abolished	1	1
" " " provided	1	3	4
" " " relaid	6	15	6	27
" " " repaired	3	3
" " " soil pipes renewed	2	4	6
" " " inspection chambers built	1	..	1
" " " intercepting traps fixed	1	..	1
" " " gullies replaced	9	22	5	36
" " " waste-pipes trapped	21	19	6	46
" " " " disconnected from soil-pipes	3	..	3
" " " " provided	5	1	6
" " " " washups replaced	4	5	..	9
Dwellings, roofs repaired	16	3	16	35
" " " " floors re-laid	5	5
" " " " floors ventilated	20	1	1	22
" " " " gables cleaded	2	..	..	2
" " " " " cemented	1	..	1	2
" " " " spouts and down-comers renewed	16	6	16	38
" " " " chimneys raised	2	2
Yards (and areas) cemented or re- paired	46	81	19	146
Yards, rain-water cisterns abolished..	..	4	4	1	9
Manure receptacles provided	1	1	2

TABLE C.—SUMMARY OF VISITS OF INSPECTORS OF NUISANCES.

	J. J. Hindmarch.	W. Clark.	R. W. Weir.	G. R. Lewthwaite.	R. Ayre.	Totals.
On Complaint of Nuisances . . .	49	147	151	180	..	527
To test drains	4	6	7	19	..	36
„ Seamen's Boarding Houses . .	..	202	256	42	..	500
„ Common Lodging Houses . .	..	..	137	117	..	254
„ Houses let in Lodgings . . .	..	..	..	177	..	177
„ Workshops . . . . .	..	154	84	55	..	293
On notification of Infectious Disease	170	271	185	195	..	821
To supervise home-treated cases	7	297	30	47	..	381
To disinfect houses and re- move cases	90	179	143	196	30	638
Re Smallpox Contacts	78	1225	1052	633	494	3482
„ Phthisis Deaths	17	25	48	48	..	138
„ Infantile Deaths . . . . .	..	41	75	..	..	116
„ Other Deaths . . . . .	..	..	5	8	..	13
„ School-reported cases	26	582	672	363	..	1643
Visits of Inspection	510	3591	3351	4625	95	12172
To Works in progress	107	756	262	174	..	1299
Taking Samples with Meat Inspector	12	..	..	57	..	69
Distributing lime-washing notices . . . . .	..	..	..	55	..	55
Total Visits	1070	7476	6458	6991	619	22614

TABLE D.—CASES REMOVED TO HOSPITAL.

Disease.	J. J. Hindmarch.	W. Clark.	R. W. Weir.	G. R. Lewthwaite.	Totals.
Scarlet Fever	58	64	39	46	207
Enteric Fever	3	11	11	3	28
Smallpox	9	10	38	29	86
Suspected Smallpox . . . . .	..	..	2	1	3
Totals	70	85	90	79	324

TABLE E.—DISINFECTION.

	J. J. Hindmarch.	W. Clark.	R. W. Weir.	G. R. Lewthwaite.	Totals.
Rooms fumigated	101	110	201	150	562
Rooms sprayed .....	..	..	..	4	4
Bundles of Bedding, &c., sent for Steam Disinfection	102	159	259	229	749

TABLE F.—SHOWING SUMMARY OF VISITS BY INSPECTOR OF MEAT, &c., TO THE VARIOUS TRADES UNDER HIS SUPERVISION.

Places Inspected.	Number Existing.	Number Opened.	Number Closed.	Number of Visits.	Remarks.
Slaughtering Places ...	125	1,678	Number of these constantly varies.
Milkshops and Dairies	249	60	47	433	
Bakelhouses	31	..	..	19
Triperies	5	..	..	54
Fried-fish Shops	72	?	?	62	
Cowsheds	11	..	..	30
Fish-curing Places	6	..	..	5
Gut-scraping Places ...	1	1	1	2	
Tallow-boiling Places .	2	..	..	1
Ice-cream Shops .....	?	..	..	64
Total Visits	2,348	

TABLE G.—SALE OF FOOD AND DRUGS ACTS.

The undermentioned samples have been examined by the Public Analyst for South Shields during 1904 :—

Description of Samples taken.	No.	Analyst's Report.	Proceedings and Result.
Milk	103	Genuine	71 ..
		Poor Quality	4 Cautioned.
		Doubtful	2 ..
		Poor in non-fatty solids	1 Cautioned.
		Poor in Milk fat	1 Cautioned.
		.012% Boracic Acid added ..	1 ..
		.017% " ..	1 ..
		.040% " ..	1 ..
		.047% " ..	1 ..
		.082% " ..	1 ..
		1 part per 100,000 Formal- dehyde added ..	2 ..
		2 parts " ..	1 faulty summons case dismissed.
		2 " " ..	1 ..
		2½ " " ..	1 ..
		4 " " ..	1 ..
		4% deficient in non-fatty solids	1 ..
		10.3% deficient in natural fat ..	1 10/- and costs.
		13.6% " ..	1 10/- and costs.
		14.0% " ..	1 faulty summons case dismissed.
		14.6% " ..	1 20/- and costs.
		15.0% " ..	1 20/- and costs.
		15.6% " ..	1 10/- and costs.
		2.6% " and 4.7% deficient in non-fatty solids	1 dismissed.
		5.3% deficient in natural fat and 10.9% deficient in non-fatty solids	1 40/- and costs.
		33.6% deficient in natural fat and 4.2% deficient in non-fatty solids	1 40/- and costs.
		5.6% deficient in natural fat and 2 parts per 100,000 Formaldehyde added ...	1 40/- and costs.
		7.6% deficient in natural fat and 2 parts per 100,000 Formaldehyde added ...	1 no proceedings: retained sam- ple burst.
		9.6% deficient in natural fat and .037% Boracic Acid added	1 40/- and costs.

TABLE G.—CONTINUED.

Description of Samples taken.	No.	Analyst's Report.	Proceedings and Result.
Butter	18	Genuine 17 35.4% excess of water 1	.. summons with drawn.
Pepper	9	Genuine .....	..
Lard	7	" .....	..
Mustard	6	" .....	..
Cheese	3	" .....	..
Vinegar	3	" .....	..
Jam	2	" .....	..
Rum	2	" .....	..
Whisky	2	" 1 27.8 under proof 1	.. Cautioned.
Gin	1	36.8 under proof	Cautioned.
Brandy	1	Doubtful genuineness .....	..
Sweet Spirits of Nitro	1	37.1% deficient in Ethyl Nitrate	10/- and costs.
Tea	1	Genuine. ....	..
Sugar.....	1	" .....	..
	160	123 Genuine.	

TABLE H.—FOOD CONDEMNED AND DESTROYED
DURING THE YEAR 1904.

Beasts	5 Carcases and Offal (4 Tuberculosis and 1 Milk Fever.)
	7 Sets Lungs.
	10 Livers.
	1 Side.
Calf	1 Carcase.
Sheep	2 Carcases.
	10 Lungs.
	27 Livers (flukes).
Pigs	2 Carcases.
	4½ st. kidneys (frozen).
Tripe	10 stone.
Fish	3 cwt.
	4 stone (salt).
Mussels	2 cwt.
Red Cabbage .	1½ tons.
Bananas	2 crates.
Pears	3 crates.

TABLE I.—PROCEEDINGS BEFORE THE JUSTICES UNDER THE FOOD AND DRUGS ACTS.

DATE OF HEARING: 1904.	OFFENCE.	RESULT.
April 25th	Selling Milk 10.3% deficient in natural fat	10/- and costs.
"	" 14.6%	20/- and costs.
" 20th	" 15.0%	20/- and costs.
June 12th	" 15.6%	10/- and costs.
"	" 13.6%	10/- and costs.
"	" Milk 5.6% deficient in natural fat, and 2 parts per 100,000 Formaldehyde added	40/- and costs.
"	Selling Milk 9.6% deficient in natural fat, and .037% Boracic Acid added	40/- and costs.
July 21st	Selling Milk 5.3% deficient in natural fat, and 10.9% deficient non-fatty solids ..	40/- and costs.
September 7th ..	Selling Nitre 37.1% deficient in Ethyl Nitre	10/- and costs.
September 29th ..	Selling Milk 2 parts per 100,000 Formaldehyde added	Faulty Summons dismissed.
"	Selling Milk 14.0% deficient in natural fat	do.
December 28th ..	Selling Milk 33.6% deficient in natural fat, and 4.2% deficient non-fatty solids ..	40/- and costs.